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PROCESS FOR COATING METAL OBJECTS.

955,592.

Specification of Letters Patent.

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No Drawing.

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To all whom it may concern:

Be it known that I, BENNARD HEMANN, a citizen of the United States of America, residing in Belleville, in the county of St. Clair and State of Illinois, have invented certain new and useful Improvements in Processes of Coating Metal Objects, of which the following is a full, clear, and exact description.

My invention relates to a process of coating metal objects, such for instance as railroad spikes, tie plates, and rail braces whereby the objects may be protected from the elements and rendered rust-proof; and also to provide for spikes or other metal objects that are driven into wood being so treated that they will be tenaciously held in the wood.

My coating comprises a composition of crude turpentine, linseed oil, and micaceous hematite and aluminum finely pulverized, which are applied to the metal objects to be treated in the manner to be set forth and preferably in the proportions to be given. I first make a mixture composed of linseed oil, 60 per cent., and aluminum, 40 per cent.

The objects to be coated are heated to a high temperature and are dipped into the above mixture and receive a coating of the linseed oil and aluminum. In this step the objects are heated before being dipped for the purpose of heating the ingredients of the mixture that come into contact therewith and whereby, due to such heating, any scale of foreign matter present upon the objects is separated from the objects to enable the ingredients of the mixture to adhere directly to the objects. I next, while the initial coating is still soft, subject the objects to the final treatment whereby the objects are fully protected to render them rust-proof and protect them from the elements when they are placed in use, and also to provide for the objects, when they are of a description intended to be driven into wood, being tenaciously held in the wood. The composition used in the second treatment comprises the following ingredients, namely: linseed oil, 20 per cent.; crude turpentine, 40 per cent.; aluminum, 20 per cent.; micaceous hematite, 20 per cent.

The composition just mentioned is, after being mixed, heated in a suitable receptacle, the partly coated objects are placed in a drum and the second composition is poured into the drum over the objects, after which

the drum is rotated for a sufficient length of time to cause the objects to be thoroughly and uniformly coated. The drum is then placed in a suitable furnace, drying oven, kiln or the like, for the purpose of drying the coating that has been received by the objects.

In the second treatment of coating the metal objects the proportions of the ingredients may be those specifically given, or the proportions may vary according to conditions or results desired. The linseed oil, aluminum, and micaceous hematite as used in my composition have the property of serving as agents for thoroughly closing the pores in the metal objects coated with the composition to render the metal moisture-proof while the crude turpentine has the property of serving as an agent in the coating, whereby the coated objects may be firmly held in any piece of wood into which they may be driven. In some instances it is desirable to depart from the proportions of ingredients herein given in order that the objects coated may be rendered more thoroughly rust-proof and when this is desired the percentage of linseed oil may be increased and the percentage of crude turpentine decreased and there may also, in this instance, if found desirable, be a smaller percentage of the aluminum and micaceous hematite used in the composition. In other instances it is desirable to mix the ingredients of such proportions as to provide for the coating being a more tenacious one relative to wood into which the coated objects, such as spikes, may be driven, and when this is desired, the percentage of crude turpentine may be increased and the percentage of linseed oil decreased, the percentage of aluminum and micaceous hematite being also decreased, if desired.

In the foregoing description I have mentioned micaceous hematite as one of the ingredients of my composition, and I desire to state in conclusion that I may use, instead of micaceous hematite, iron oxid, which is the equivalent of micaceous hematite. I desire to state that my coating may, if desired, comprise only three ingredients; namely, linseed oil, aluminum, and crude turpentine used in suitable proportions and that in certain instances I may omit the use of micaceous hematite.

I claim:—

1. The process of coating metal objects

which consists of first heating the objects, then coating them with a mixture of oil and a pore closing agent, then, while the first coating is in a soft condition, applying to the
5 objects over the first coating a coating comprising a mixture of oil, a pore closing agent and an adhesive agent.

2. The process of coating metal objects, which consists in first heating the objects,
10 then dipping them in a mixture of oil and a pore closing agent to produce an initial coat-

ing thereon, and then, while the initial coating remains in a soft condition, applying to the objects over the initial coating a second coating comprising a mixture of oil, a pore closing agent and an adhesive agent, and
15 finally drying the two coatings on said objects.

BENNARD HEMANN.

In the presence of—

HOWARD G. COOK,

EDNA B. LINN.